

Appl. No. 09/911,247
Amdt. dated Jan. 12, 2006
Reply to Office action of July 27, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended): The use of a hot fixed bed of carbon based and/or carbon containing material in a gas producer or water gas set for the purpose of decomposing oxygen containing organic compounds, high molecular weight organic compounds, steam, nitrogen oxides, carbon dioxide, and other undesirable compounds and/or gases[[.]] by drawing/blowing them through the said hot fixed bed.
2. (currently amended): The addition of monovalent alkali metal (e.g. sodium and/or potassium) carbonates, silicates, oxides, and/or hydroxides to fuels before combustion to lower the fusion point of the ash, and/or to increase the usefulness of the ash for [[various uses such]] use as fertilizer[[.]], glass, water-soluble glass, and/or man-made rock.
3. (withdrawn): The casting of molten slag, molten ash, molten rock, etc. into useful shapes such patio blocks, construction blocks, frying pans, furniture, etc. (similar to the casting of cast iron, etc.)
4. (withdrawn): A gas producer for the gasification/liquefaction of trash, other wastes, other solid fuels, etc. where in, at or near its bottom, only air/oxygen and/or powdered, gaseous, and/or liquid fuels and/or their hot products are admitted so as to keep its bottom hot enough to keep the ash, etc. in a molten state.
5. (withdrawn): The invention of claim 4 wherein higher up in the gas producer steam/carbon dioxide/exhaust is added, with or without additional air/oxygen, etc. in order to convert sensible heat into chemical energy stored in the form of hydrogen and/or carbon monoxide via the water gas reaction and/or like.
6. (withdrawn): A water gas generator, drawing run gases off the top, and the blow gases approximately mid-height off the side of the water gas generator so that all rich hydrocarbon gases, oils, and tars, etc. formed via the cracking of oils, etc. added in the top and/or destructively distilled from the solid fuel in the water gas generator go primarily out with the run gases.

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7. (withdrawn): A gas producer, having excessive height so as to keep the top of the fuel bed relatively cool (preferably not exceeding 750 degrees Fahrenheit) so that any hydrocarbon vapors and/or gases produced are not thermally destroyed before they can be drawn off.

8. (withdrawn): Having a detachable and/or droppable bottom on gas producers and water gas generators to facilitate repair, cleaning, etc. similar to cupola practice.

9. (withdrawn): Gas producers and water gas generators having their sides, tops, bottoms, etc. cooled with air, gas, and/or steam before the air/gas/steam is injected into the fuel bed within it carrying the absorbed heat back into the fuel bed.

10. (currently amended): The use of turbines, air motors, gas motors, and steam type engines[[, etc.]] to recover energy from hot gases/vapors coming out of gas producers, water gas sets, furnaces, [[etc.]] and other sources of hot gases and vapors by drawing/blowing said hot gases/vapors as a motive fluid directly through the turbines/air motors/gas motors/steam type engines (instead of, or in addition to, steam) before the gases/vapors are drawn/blown in to a cooler/condenser [[and/]] or other cooling device [[like]], taking advantage of the greater volume per mole of hot gases and vapors before the cooler/condenser/other cooling device[[like]] compared with the cool gases and condensed liquids after going through the cooler/condenser/other cooling device [[like]].

11. (currently amended): The use of fixed bed gas producers and fixed bed water gas sets to process trash, wood waste, waste plastics, waste fibers, waste fiber, waste cloth, waste leather, waste cork, waste paper, waste sludge, waste rubber, waste tires, rendering plant waste, and other types of waste[[.]] by using those materials as fuels/cracking stock in said gas producers/water gas sets instead of or in addition to coal, gas oil, heavy oil, and/or other conventional fuels/cracking stock to manufacture gaseous fuels and/or liquid fuels.